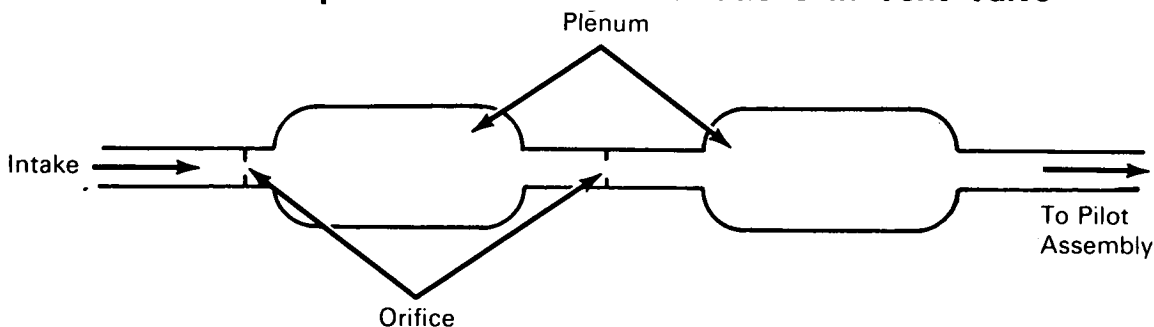


NASA TECH BRIEF



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Device Damps Fluid Pressure Oscillations in Vent Valve



A tuned series arrangement of two plenum chambers and two orifices has been designed to damp high-pressure fluid oscillations in a vent valve. This damping device is connected between the fluid intake line and the valve pilot assembly to prevent amplification and feedback of the pressure oscillations from the internal tank vent line, which acts as a resonance cavity. This device is the mechanical (acoustical) analog of a low-pass electrical filter network used to attenuate system feedback. The principle of this device has been used in sound attenuation systems.

Notes:

1. This device was specially devised for use in conjunction with vent valves for relief of gas pressure

that develops during tanking, pressurization, and other operations on liquid hydrogen and liquid oxygen in tanks used on a space vehicle.

2. Inquiries concerning this device may be directed to:
Technology Utilization Officer
Marshall Space Flight Center
Huntsville, Alabama 35812
Reference: B68-10078

Patent status:

No patent action is contemplated by NASA.

Source: H. J. Nein
(MFS-13290)

Category 05



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The following information was obtained from a report prepared by the NASA Langley Research Center, Hampton, Virginia, and is being made available to the public as a service to the aerospace community.

For further information, contact the NASA Technical Information Service, Springfield, Virginia 22161.



The curve shown in the graph represents the relationship between the variables being studied in the experiment.

The data points were collected from a series of experiments conducted under controlled conditions.

The results of the experiments indicate that the curve is a good representation of the data.

The curve is a good representation of the data and is used to illustrate the results of the experiments.

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